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#### ABSTRACT

Many advocates for children are not yet involved in decision making and planning regarding the right of all children, regardless of family income, to benefit from information technology. This Kids Count report explores critical issues about information technology and children's literacy, education, and intellectual development. The report explains some of the underlying issues involving information technology and children such as poverty, literacy, and equal access; examines the importance of basic phone service and how more low income children and families can achieve access to telephones; discusses recent changes in universal service (i.e., policies that ensure that everyone has access to affordable telecommunications technology) due to actions by the Federal Communications Commission; and explores disparities in Internet access by income, and the role of schools, libraries and other public institutions in addressing those disparities. Suggestions and resources are offered to children's advocates about how to become involved in policy decisions about information technology. (JPB)

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# Minnesota Children and Information Technology:

# **Challenges for Children's Advocates**

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#### Summer 1997

This report explores critical issues about information technology and children. Many advocates for children are not yet involved in current decision making and planning about technology issues. This report will:

- Explain some of the underlying issues involving information technology and children;
- Examine the importance of basic phone service and how more lowincome children and families can achieve access to telephones;
- Discuss recent changes in universal service (i.e., policies that ensure that everyone has access to affordable telecommunications technology) due to actions by the Federal Communications Commission;
- Explore disparities in Internet access by income, and the role of schools, libraries and other public institutions in addressing those disparities;
- \* Offer suggestions and resources to children's advocates about how to become involved in policy decisions about information technology.

Minnesota KIDS COUNT, a joint project of the Children's Defense Fund-Minnesota and Congregations Concerned for Children, is funded by the Annie E. Casey Foundation, and provides county-by-county assessment of the condition of Minnesota's children. Minnesota KIDS COUNT releases periodic reports and an annual databook to provide a statistical profile of Minnesota's children and suggestions for action on their behalf.

# Minnesota Children and Information Technology:

Challenges for Children's Advocates

Introduction

hroughout its history, CDF-MN has focused on basic issues that affect children and families, such as affordable child care, access to health care, welfare reform, foster care reform, and improving child support collection. As we approach the year 2000, we have a new issue on our agenda — the right of all children to reap the benefits of information technology. Many themes of this discussion are familiar, although the specifics are different.

Children in Minnesota, especially those who are already disadvantaged by income, race or disability, need full and complete access to basic and advanced information technology. Without it, they will be cut off from opportunities to succeed economically and to fully participate in public life. Investment in access to telephones, computer literacy, Internet connections and training are not frills. They are as important as spending on education, health care and child care programs.

Unless we change the course we are currently on, we will have three separate categories of children in Minnesota and the nation:

- The privileged those with full access to advanced technologies at home and at school
- The underprivileged those with limited access at home or school
- The excluded those with no access<sup>1</sup>

A better vision for the future would be for all children, regardless of income, race, geography, or disability, to have full access to the benefits of information technology. This ranges from basic communications technology, like the

telephone, to things we can barely imagine yet.

#### Underlying Issues

It has become a truism to say that information technology is revolutionizing the ways we work, play, learn and communicate. However, this technology cannot be isolated from other social and political issues for children and families. Several of the most critical issues include:

- 1. Poverty. Technology usually requires money to purchase equipment, training and services. The best and newest technologies are often the most expensive. Although items like personal computers have come down in price, they are still beyond the financial reach of many households in Minnesota. Internet access charges and the increasing practice of charging for specific online information also present barriers. Even a basic, 100-year-old technology like the telephone is not affordable to some low-income families.
- 2. Literacy. An Internet hookup is not useful if a child or adult can't read a manual, write clear sentences, or understand what is on the monitor. Having computers in every classroom does not eliminate the need for every child to learn to read, write, analyze and interpret information. That process remains the same, whether the medium is paper and pencil or keyboard and mouse. In addition, there are new demands for technology literacy, which educational systems must be prepared to meet.
- Equal Access. In every area of child well-being, there are large discrepancies between children of dif-



ferent races, geographic areas and income. The same is true for access to information technology. Internet connections and other advanced technology services may cost more in rural areas because of distance and fewer customers. Some urban areas may not receive particular technology services as quickly as more affluent suburban areas. Rural areas and impoverished urban areas can become isolated in similar ways if market forces are the only deciding factor in access.

4. Safety. Child advocates have worked hard in Minnesota to protect children from child abuse and neglect, to pass seat belt laws and limit access to tobacco, and to protect the health of children by ensuring access to needed health care. The new technologies also pose similar concerns about child safety from inappropriate or damaging images and information.

Many adults who care about children feel unable to engage in policy debates about information technology because they are uncomfortable with that technology. Often, adults will comment that children know more than they do. Some children may know how to hook up a computer or navigate the Internet while their parents or teachers struggle to find the on/off switch. However, they still need adults to ensure access and availability, to guide and nurture their curiosity, and to apply knowledge about child well-being to this new arena.

#### Access to Telephones

The humble telephone, a basic telecommunications device taken for granted by many Americans, is a vital service that many low-income children and families do not have.

According to a national survey, the average household makes 36 calls a week and receives 28. Of these calls, over half were considered essential.<sup>2</sup> The use of the telephone has also expanded in the past decade. People now use phones to pay bills, obtain tax forms, order merchandise, receive

counseling and reach emergency services. Pagers, cell phones, and voice mail have expanded the telephone's role in communication.

Telephone service is crucial in several key areas for families.

- 1. Employment. It is difficult to obtain and keep employment without a phone. An employee without a phone can't call in if he or she is sick, find out about changes in hours or schedules, call home to check on a child after school, or find out the results of a job interview.
- 2. Public Safety. Through the 911 service, phones are a vital communication link to fire, police and emergency medical services. Individuals without phones cannot report a crime or fire in their neighborhood or reach emergency medical care.
- 3. Health. Scheduling doctor's appointments, receiving test results, and consulting by phone with a physician or nurse are all important functions of a phone, especially for parents with disabled or chronically ill children or women with high-risk pregnancies.
- 4. Education. Schools need to contact parents and parents need to be able to contact schools. Schools

sometimes must send children home. Teachers need to talk with parents about a child's behavior or school work. Parents have questions or concerns for teachers and administrators.

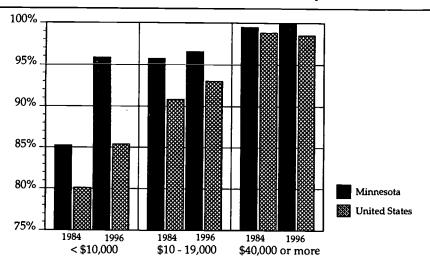
5. Access to Advanced Technologies. A computer without a phone line is a computer that is not part of the Internet. Even if low-income families are given computers or can afford a used or refurbished computer, without a phone line they cannot access email and the Internet.

Who Lacks Phone Service in Minnesota

verall, Minnesota has one of the highest phone penetration rates in the country, according to the 1990 census. Over 97% of Minnesotans have phones, compared to about 94% of all Americans.<sup>3</sup> The latest telephone penetration report from the FCC showed a similar statistic: that 97.7% of all Minnesotans had phone service.<sup>4</sup> However, this positive statistic begins to break down when some additional factors are considered.

First, low-income Minnesotans are much more likely to lack phones, especially those with children. According to

Figure 1: Percent of Households with Telephones by Income (in 1984 Dollars)



Source: FCC Telephone Penetration Report, February 1997



the census, approximately 11,500 Minnesota families with children below 145% of poverty lacked a phone, compared to only 3,500 families above 145% of poverty. The recent FCC report showed that 13,132 of the lowest income households in Minnesota lacked phones (see Figure 1).

The high rate of phone access also breaks down by geography. In seventeen counties, primarily in northern Minnesota, more than 5% of the households lack phones. Within the cities of Minneapolis and St. Paul, certain neighborhoods and zip codes are far more likely to lack telephones. (See Figure 2.)

Households headed by people of color in Minnesota were more likely to lack phone service than were white households. Eleven percent of African Americans and 19% of American Indian households lacked phones, compared to one percent of whites. Even among those in poverty, African Americans were twice as likely and American Indians four times as likely to lack phones.<sup>7</sup>

Telephone Service Subsidies

wo federal programs administered by the Federal Communications Commission, Lifeline and Link-Up America, provide subsidies for telephone assistance to low-income subscribers. Funded through a small assessment on phone lines, Lifeline provides a modest monthly subsidy toward local phone service and Link-Up provides assistance with the cost of

establishing phone service. These programs work — between March 1984 and March 1996, the average telephone penetration rate for states with Lifeline programs increased by 2.5%. The increase for states without the program was not statistically significant. For the lowest-income households, the average increase was 6.4% versus an insignificant increase for states without programs.8

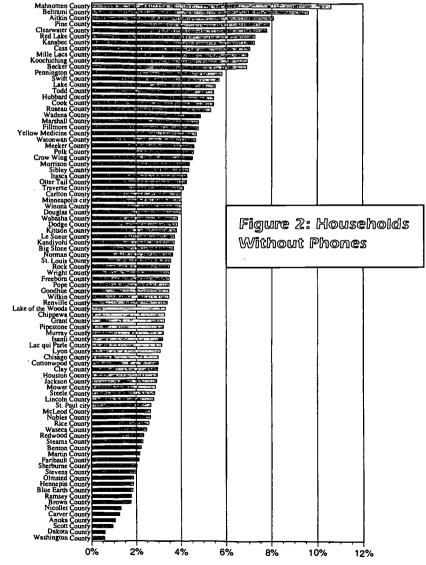
In Minnesota, the Lifeline program is called the Telephone Assistance Program (TAP). Minnesota requires program recipients to be age 65 or older and low-income, or disabled and low-income, to receive the subsidy. At least 42 other states have more liberal eligibility standards than Minnesota, usually based on income alone.

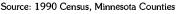
During the 1997 legislative session, an effort was made to expand the TAP program to include low-income families with children. This effort failed, but the bill that passed establishes a task force through the Department of Human Services to review the program and develop recommendations to the legislature for the 1998 legislative session.

Minnesota will need to develop legislation and regulation that conform with the May 1997 Federal Communications Commission ruling on Universal Service. (Universal Service is the name of a decades-old policy that guarantees that every citizen has access to affordable telephone service.) The result of this ruling hopefully will be an expanded TAP program in Minnesota and more low-income individuals and families who can afford basic phone service.

The Minnesota Public Utilities Commission also will have a task force meeting in 1997 to rewrite regulations to match the FCC guidelines. The new ruling from the FCC has three key provisions affecting phone service:

 The federal allotment to the Lifeline and Link-Up programs will increase.
 From the federal fund, Lifeline consumers will receive \$5.25 per month, up from the current amount of \$3.50. The federal fund will also





match state assistance at 50 cents for every dollar, up to \$1.75. With a maximum state contribution, the total reduction in the monthly phone bill for low-income households will be \$10.50, or more, if a state chooses to contribute more funds to the program.

- 2. Eligible consumers must be determined by requirements that "are based solely on income or factors directly related to income." Additional restrictions on age and disability that are currently in place in Minnesota statute are not allowed. Minnesota has an opportunity to receive the maximum in federal matching funds only if it revises its definition of eligibility.
- 3. Lifeline subscribers can block or limit their long-distance usage, but will not lose basic phone service if they are unable to pay their long-distance bills. Studies have shown that difficulty in paying long-distance bills, and the subsequent disconnection of all service for failure to pay these bills was a primary reason that lowincome subscribers lost access to telecommunications services.

Another innovative attempt to provide phone service to the most needy is Twin Cities Voice Mail (TCVM). TCVM makes remote access voice mail boxes available to social service organizations who in turn provide them to their clients. The service is used primarily by homeless individuals who are seeking jobs and housing. Another clientele has been battered women who need secure, untraceable phone access. People can get and receive messages from any phone. Recent legislation authorizes a pilot expansion of this program to an area in greater Minnesota.

#### Recommendations

- The Minnesota Public Utilities
   Commission should issue rules to achieve the maximum available federal subsidy for low-income Minnesota households.
- The Minnesota State Legislature should revise state statute to eliminate non-income criteria for partici-

- pating in the Telephone Assistance Program.
- 3. Enrollment should be automatic for individuals enrolled in other financial assistance programs that have income guidelines. Aggressive outreach should be conducted by phone companies and other social service providers so that eligible lowincome families are aware of the program.

Access to Advanced
Information Technology

Iniversal service can no longer be viewed as just telephone service. With the technological changes upon us, universal service must include access to current and future communication and information technologies, whether in children's homes or in schools, libraries and other community settings.

To be employed in the 21st century, children will need to develop skills and expertise with computer technology. This expertise will pay off in higher wages. For example, a study by the U.S. Department of Commerce found that wages were 37% higher at plans using the highest number of advanced technologies versus plans that did not use advanced technology.<sup>9</sup>

In addition, underneath the media hype, the Internet is changing the way many people communicate, conduct business and find information. Accessing the Internet requires a computer (preferably one capable of handling graphics), special software, a modem and phone line, and an account with a provider who will provide access (similar to cable TV.) Many people also need some type of training to install everything correctly and learn how to use the software.

There are three key ways people are using the Internet.

- Communicating with other
  people. Email is supplementing or
  replacing telephone and postal communication for some computer
  users. Once someone makes the initial investment in equipment,
  monthly access charges can be less
  than long-distance phone bills or
  mailing costs.
- 2. Finding out information. Much of the information available in traditional formats such as newspapers. encyclopedias and consumer guides is now available through the Internet. Unlike print sources that have to be scanned or retyped, this information is already in electronic format, so it can be integrated into word processing or other programs. In the future, some government information such as the census will be available only electronically, since the cost of providing information online will be cheaper than printing.
- 3. Distributing ideas and information. Non-profit organizations, busi-

RACE: Schools with greater than 50% children of color enrollment	56%
Schools with less than 6% children of color enrollment	65%
GEOGRAPHY: Rural schools	60%
Suburban schools	75%
City schools	64%
POVERTY: Schools where less than 11% of children receive subsidized school lunches	78%
Schools where more than 71% of children receive	

Figure 3: Percent of Schools with Internet Access



53%

subsidized school lunches

Source: National Center for Education Statistics, 1996

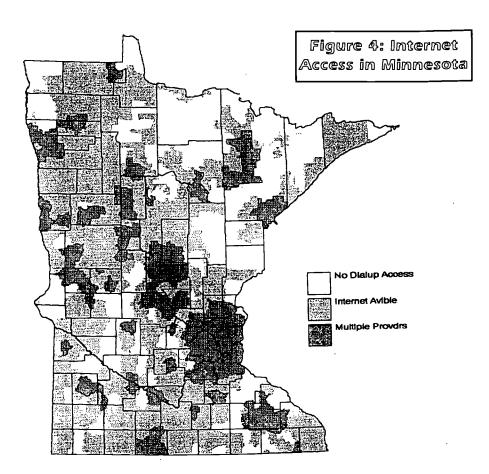
nesses, government and individuals are using the Internet to express their ideas, sell products and provide information and services. Commercial sites increasingly dominate the Internet, creating an overlapping culture with television, video and movies, often targeted at children. It is important to note that many low-cost, newer Internet access options (such as Web TV) eliminate this interactive, information-creating function of the Internet for individual users.

Getting to the Internet can become expensive, especially if it requires long-distance service provider charges. Over time, the area of Minnesota that has local Internet access has increased. Figure 4 shows areas of Minnesota which have access to the Internet via a local phone call. Most areas of the state, including those with the highest populations, have at least one provider available to them. There are still some significant gaps in northeast, southeast and west central Minnesota, however, as well as the far northwest.<sup>10</sup>

Minnesota-specific data about computer ownership and Internet access are difficult to find. However, available national data clearly highlights inequity of access based on income, geography and race. In 1996, over 50% of households with children had personal computers. However, over 60% of households with an annual income above \$40,000 had computers, compared with about 24% of households with incomes below \$35,000.11 In 1993, 32% of children had a computer in their home, the first requirement for Internet access (plus a phone line, modem and Internet account.) While over 50% of well-off children had a computer, less than 10% of lowincome children had one. Black and Hispanic children and also children whose parents were less educated or unemployed were also less likely to have computers in their homes.12

#### The Role of Schools

Traditionally, schools have tried to bridge economic inequities between families by providing all chil-



Source: Minnesota Equal Access Network Services, Inc. (MEANS), 1997

dren with equal education. Yet, economics, race, and geography continue to play a role in who has access to information technology at school. In the latest national survey of school Internet access in 1996, inequities were clear between different schools — see Figure 3 on page 4.<sup>13</sup>

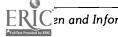
A recent survey from Quality Education Data found that 90% of Minnesota schools had Internet access, which ranked Minnesota eleventh among states, and far above the national average of 64%. Minnesota also ranked above the national average in the number of students per computer, at 8.6. The number of students per multimedia computer, however, was quite a bit lower, at 21.7. Multimedia computers are better able to access the Internet and utilize graphics and CD-ROM disks. The report also detailed other available technologies, and is highlighted in Figure 5.14

The Minnesota legislature has continued to authorize significant funding for additional computers, Internet access,

and teacher training in Minnesota schools. The 1997 session authorized several initiatives totaling \$94.7 million for education technology and training in elementary and secondary schools. This is especially critical for poorer schools and districts that cannot rely on extra equipment and support from technologically-literate parents or from students being able to use their own computers at home.

#### The Role of Libraries

ibraries, as a community source of information, also provide computers, Internet access, and assistance in identifying and evaluating information. A 1996 U.S. Department of Education survey of public use of libraries showed that 65% of the U.S. public used a public library in the past year, including 44% in the past month. In Minnesota, 70% had used a library in the past year, including 47% in the past month. Nationally, 82% of households with children used libraries in the past year. When asked why they had visited the





library, 20% reported using the library to get information for personal use, on such topics as consumer or health issues, and 19% reported using the library for a school or class assignment. <sup>15</sup> Both of these uses are compatible with using the Internet.

Library staff play an important role as mediators of Internet content and information. Libraries can offer instruction in how to use the technology, and can provide public access equipment such as modems, printers and terminals, and quality information experts. It is increasingly important to have well-trained library staff with enough time to work with individual information-seekers to identify specific needs and information sources.

A recent Benton Foundation and Libraries for the Future report on Libraries in the Digital Age suggested a vision for libraries that includes two components. The first is building and enhancing collections to include online journals,, electronic issues of print magazines and other Internet reference materials. The second is strengthening communities by forming partnerships and developing community Internet networks, or other public Internet access.

Minnesota has made a commitment to investment in libraries which should be continued. This includes various access grants to help wire libraries for the Internet, and collaborations and partnerships in community projects such as Access Minnesota. This support is critical because public institutions like libraries are one way to equalize access to information technology.

# E-Rate Discounts for Schools and Libraries

The May 1997 FCC Ruling on Universal Service contained some hopeful news for schools and libraries. Eligible schools and libraries can receive discounts of between 20% and 90% on all telecommunications services from a special \$2.25 billion fund, including Internet access and internal wiring, starting in January 1998. For schools and school districts, the

Figure 5: Percentage of Minnesota Schools Wit	গৌ
Various Technologies and National Rank Among S	්රකරලග

Type of Technology	MN Schools	All U.S. Schools	Minnesota's Rank
Internet Access	90%	64%	11
CD-ROM	60%	54%	19
LANS (local area networks)	<b>52</b> %	38%	7
Cable TV	78%	76%	19
Videodisc Players	31%	35%	19
Satellite Technology	11%	19%	36
Number of Students Per Compu	ter 8.6	10	14
Number of Students per Multimedia Computer	21.7	23.7	20

Source: Quality Education Data, Denver, CO. Technology in Public Schools, 15th Edition. Installed Base Technology in U.S. Public Schools, Covering 1981-1996.

amount of the discount received is determined by the percentage of enrolled students that are eligible for the federal free or reduced-price lunch program. For libraries, the amount of the discount is determined by the eligible enrollment in the public school district in which they are located. (See Figure 6.)

Telecommunications costs such as Internet access and telephone bills are only a small portion of total technology costs. It is estimated that about 4% of initial costs and 7% of ongoing costs

are for the cost of connections. <sup>16</sup> Thus, even with the e-rate discounts, schools and libraries will still need substantial, on-going funding for equipment and training.

Funding is capped at \$2.25 billion per year and is on a first-come, first-served basis. The Minnesota Public Utilities Commission passed the necessary rules in June to authorize similar intrastate discounts. This means that it is extremely important that Minnesota schools and libraries, especially those that serve low-income children, actively

	Schools and [	.ibraries (	Discour	าช Matrix
How Disadvantaged?		Discount Lev	vel	

		Discount Level	
% of students eligible for national school lunch program	# and % of MN school districts in each category	Urban Discount %	Rural Discount %
<1	0	20	25
1-19	65 (19%)	40	50
20-34	162 (46%)	50	60
35-49	88 (25%)	60	70
50-74	31 (9%)	80	80
75-100	3 ( <1%)	90	90

Source: Federal Communications Commission, Report and Order, CC Docket No. 96-45, May 8, 1997.



seek out information and apply for these discounts.

#### Recommendations

- 1. The Minnesota Department of Children, Families and Learning should take a leadership role in encouraging Minnesota schools, particularly those serving lowincome children, to develop the required technology plans and apply for the discount service.
- 2. The Minnesota Legislature should continue to make technology funding a priority in education and library spending, focusing on teacher and librarian training and on technology as a tool for improved learning and student achievement.
- 3. Because schools and libraries alone cannot ensure good, community access to the Internet and other technologies, the Minnesota Public Utilities Commission should expand these discounts to include community centers with a youth-serving focus.

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### A free

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is available from the Center for Media Education, entitled Connecting Children to the Future, A Telecommunications Policy Guide for Child Advocates. Copies of that guide, as well as of this report, are available by calling Congregations Concerned for Children Child Advocacy Network at (612) 870-3670 or 1 (888) 870-1402.

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Ten Factors to Consider in Evaluating Information
Technology Policies

(from America's Children and the Information Superhighway, An Update, 1996)

- **1.** Universal Reach: Does the proposal help ensure that every child will have access to the information technologies he or she needs for equal opportunity in economic and civic life?
- **2. Neighborhood Access:** Does it help make necessary information resources easily accessible to all children by using classrooms, libraries, community centers, and homes?
- 3. Special Attention to At-Risk Children: Does the proposal increase access to necessary equipment and educational materials for low-income, disabled and rural children? For girls?
- **4. Correct for Market Failures:** Does it provide public and private sector leadership to compensate for market forces that might leave disadvantaged children behind?
- **5. Education to Prepare for the 21st Century:** Does the proposal promote an education that teaches the information skills necessary to function in the workplace and community of the 21st century?
- **6. High Quality Content:** Does the proposal help ensure that high-quality

noncommercial programming will be available to all children?

- 7. Protection Against New Forms of Abuse: Does the proposal include appropriate safeguards to protect children from deceptive advertising practices, excessive violence and inappropriate material on the Internet and other online networks, and in entertainment programming, including video games and other software?
- **8. Industry Responsibility:** Does the proposal help carry out the corporate sector's responsibility to children by, for example, encouraging the development and dissemination of quality products and services for children?
- **9. Parent and Citizen Action:** Does the proposal help equip parents and guardians to carry out their role as gate-keepers for their children's interactive media activities?
- **10. Media Literacy:** Does the proposal help assure that young people are educated and provided with the tools they need to be good citizens and safe travelers on the information superhighway?





## How to Get Imvolved

Too many decisions about telecommunications policy are being made solely by business interests without significant input from people who are knowledgeable about children's issues. Children's advocates with skills in policy and program development and expertise in children's needs and issues are by and large not yet engaged in these discussions.

- 1. Become informed. If advocates can understand the basics of welfare reform or child care or tobacco control, they can understand issues of children and information technology. You don't have to be a technical expert yourself to understand basic issues of fairness, education and equity.
- 2. Experience the technology firsthand. It's easier to advocate for access to the Internet or explain the advantages of a voice mail system or email when you have a full appreciation of their potential.
- 3. Figure out how this issue fits into work you are already doing. For example, if you work to increase literacy among children, expand to include technology literacy. If you care about access to health care, then getting medical information by phone is another form of access. If you are concerned about welfare reform and the ability of low-income families to support themselves, then access to computers and training is crucial.

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